

**REMARKS**

Claims 1-8 are pending in this application. Amendments are proposed amending claim 5, cancelling claim 6 without prejudice or disclaimer, and adding new claims 9 and 10.

The proposed amendment to claim 5 incorporates the limitations of claim 6.

The proposed new claims 9 and 10 are supported by the specification on page 4, lines 14 to 31.

**Claims 1, 2, and 4-6 are rejected under 35 U.S.C. 103(a) as unpatentable over Iversen (U.S. Pat. No. 3,816,641) in view of Wada (U.S. Patent No. 4,517,332) (Office action point 2).**

Reconsideration of the rejection is respectfully requested in view of the proposed amendment and the following remarks.

In the Response to Arguments, the Examiner states that Applicants' arguments are irrelevant to the rejection. Specifically, the Examiner disagrees with Applicants' assertion that the proposed combination of references requires that Wada's rubber composition be substituted for both the thermoplastic material in Iversen's preform 14 and sheath 28, since in Iversen these are both the same material. The Examiner states that:

**"In response, because the claimed invention does not recite the sheath being the same material as the stopper, there is no need for the Office action to modify the sheath of Iversen to have the rubber composition of Wada." (Emphasis added)**

Applicants respectfully note that it is unclear if by "the claimed invention" the Examiner is referring to Iversen's invention or to the present application. The present application does not recite a sheath,

and Iversen does not disclose a stopper (Iversen discloses preform 14, taken by the Examiner as a stopper).

Applicants respectfully maintain the argument that Iversen explicitly states that the sheath is the same material as the stopper (column 2, lines 42-43), and that this is clearly done in order to have a functional device. Iversen's device functions by heat-bonding the preform to the cable. That is, if the Examiner were to substitute the rubber composition of Wada only for Iversen's preform, this would yield be expected to yield a non-functioning connector, and would argue against a *prima facie* case of obviousness. Moreover, there clearly is no suggestion in either Wada or Iversen for a substitution of **only** the preform 14.

The Examiner addresses Applicants' arguments (page 4 lines 2-11 of the Amendment) regarding reasonable expectation of success, stating that Applicants have not presented any argument showing that the modified rubber stopper (i.e., preform 14) would not bond to the sheath 28 when heated. However, Applicants respectfully note note that **they have** presented an argument against a reasonable expectation of success for the proposed combination. Applicants respectfully submit that the Examiner has not presented an argument **for** a reasonable expectation of success.

Applicants note the Examiner's argument on page 5, lines 6-13, of the Office action. Here, the Examiner indicates only that Wada's rubber composition is suitable for use underground, not underwater. Moreover, Applicants note that there is more at issue in the expectation of success than simply "bonding" of preform 14 to sheath 28; Iversen's device would have to bond and be water resistant enough to function underwater (that is, for its intended purpose) with this substitution, as discussed by Applicants in the Amendment dated October 30, 2002.

In addition, reconsideration of the rejection of claim 5 is requested in view of the proposed amendments to claim 5. In the proposed amendment to claim 5, the limitation of claim 6 has been added, that the plasticizer in the rubber stopper is a di-2-ethylhexyl phthalate or a phthalic acid di-isodecyl.

Applicants submit that this limitation clearly distinguishes the claims from Iversen '641. Applicants have previously argued that Iversen explicitly states that the sheath is the same material as the stopper (column 2, lines 42-43), and that this is clearly done in order to have a functional device. If the Examiner were to substitute a rubber composition having di-2-ethylhexyl phthalate or a phthalic acid di-isodecyl as the materials of Iversen's sheath and cable, this would appear to produce a non-functioning device.

Applicants submit that claims 1, 2 and 4-5 are novel and non-obvious over Iversen (U.S. Pat. No. 3,816,641) and Wada (U.S. Patent No. 4,517,332), taken separately or in combination, and reconsideration of the rejection is again respectfully requested.

**Claim 3 is rejected under 35 U.S.C. 103(a) as unpatentable over Iversen (U.S. Pat. No. 3,816,641) in view of Wada (U.S. Patent No. 4,517,332) and further in view of Yoshino (U.S. Patent No. 5,519,082) (Office action point 3).**

Reconsideration of the rejection is respectfully requested. In addition to Applicants arguments presented above regarding the rejection of claim 1, the following points are noted.

In the Response to Arguments, the Examiner now explains that this rejection is, in fact, a substitution of Yoshino's rubber into Iversen's preform 14 (stopper). However, Applicants had

presented technical arguments that Yoshino's rubber would probably not function as an underwater sheathing, and that Yoshino's rubber, having good release properties, would probably not bond to the covering layer of a covered cable when heated.

Applicants respectfully submit that the Examiner has not addressed these arguments that there would be no reasonable expectation of success for the proposed combination.

The Examiner also argues regarding a motivation to combine Iversen with Yoshino, stating that Yoshino teaches a rubber composition having an improved hardness, modulus and tear strength. However, Applicants respectfully argue that these teachings do not provide a motivation for substitution into Iversen, where the issue is performance in an underwater seal under pressure.

Applicants submit that claim 3 is novel and non-obvious over Iversen (U.S. Pat. No. 3,816,641), Wada (U.S. Patent No. 4,517,332) and Yoshino (U.S. Patent No. 5,519,082), taken separately or in combination, and reconsideration of the rejection is again respectfully requested.

**Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as unpatentable over Iversen (U.S. Pat. No. 3,816,641) in view of Yoshino (U.S. Patent No. 5,519,082) (Office action point 4).**

Reconsideration of the rejection is respectfully requested.

The modification of the references proposed by the Examiner requires substitution of Yoshino's rubber into Iversen's preform 14.

Applicants assert that a substitution of Yoshino's rubber into Iversen's preform 14 (stopper) would not function for Iversen's stated purpose. In particular, as discussed above, Yoshino's rubber would probably not function as an underwater sheathing, and that Yoshino's rubber, having good

release properties, would probably not bond to the covering layer of a covered cable when heated. Therefore, there is no motivation and no reasonable expectation of success for this proposed combination.

The Examiner also argues regarding a motivation to combine Iversen with Yoshino, stating that Yoshino teaches a rubber composition having an improved hardness, modulus and tear strength. However, as argued above regarding point 3 of the Office action, Applicants respectfully submit that these teachings do not provide a motivation for substitution into Iversen, where the issue is performance in an underwater seal under pressure.

Applicants submit that claim 7 is novel and non-obvious over Iversen (U.S. Pat. No. 3,816,641), and Yoshino (U.S. Patent No. 5,519,082), taken separately or in combination, and reconsideration of the rejection is again respectfully requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

Attached hereto is a marked-up version of the changes by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

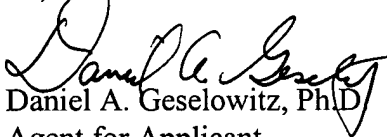
Response under 37 CFR 1.116  
Masahiro KANDA

U.S. Patent Application Serial No. 10/050,170  
Attorney Docket No. 020066

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosures: Version with markings to show changes made

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Response under 37 CFR 1.116  
Masahiro KANDA

U.S. Patent Application Serial No. 10/050,170  
Attorney Docket No. 020066

**VERSION WITH MARKINGS TO SHOW CHANGES**

**IN THE CLAIMS:**

Please amend claim 5 as follows:

5. (Amended) A waterproof connector having a waterproof rubber stopper that includes an organic rubber as a major constituent, the rubber stopper disposed between the waterproof connector and a covered cable, wherein the rubber stopper includes a plasticizer soluble mutually with a resin material constituting a covering layer of the covered cable,

wherein the plasticizer is a di-2-ethylhexyl phthalate or a phthalic acid di-isodecyl.